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ABSTRACT

Three papers presented at the pre-session to the 11th Invitational Conference on Measurement in Education are provided. These papers are: "Public Schools in Transition. . . One Student Body, Its Needs and Directions" by George R. Rhodes, Jr., "Man to Mankind: The International Dimension of Teacher Education" by David G. Imig, and "Measurement for the Purpose of Evaluation" by D. E. Hinkle. (For related documents, see TM 002 523-539, 541-547. (DB)

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PROCEEDINGS

Invitational Conference on Measurement in Education

Eleventh Southeastern Conference -- December 8-9, 1972

Compiled and Organized by

Thomas M. Goolsby, Jr.
Conference Chairman
University of Georgia

Pre-Session
Friday Morning
December 8, 1972
University Motor Inn
University of Georgia
Athens, Georgia

Papers by:

Public Schools in Transition - One Student Body, Its Needs and Directions
George R. Rhodes, Jr.

Man to Mankind: The International Dimension of Teacher Education
David Imig

Measurement for Purposes of Evaluation
Dennis E. Hinkle

Sponsors:

The National Council on Measurement in Education
The Association on Measurement and Evaluation in Guidance in Conjunction with

College of Education, University of Georgia and
Test Department, Harcourt Brace Jovanovich, Inc.

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Foreword

The presession to the Invitational Conference has functioned for four years sponsored by the National Council on Measurement in Education and the Association for Measurement and Evaluation in Guidance in conjunction with Harcourt, Brace and Jovanovich, Inc. A concerted effort has been made to treat topics of very current interest and appropriate on the national and international levels.

Three of the five topics for 1972 are presented in this proceedings. Suggestions for topics at future conferences are encouraged and welcomed.

Thomas M. Goolsby, Jr.
Athens, Georgia
February 20, 1973

Invitational
Conference on
Measurement
in Education

ELEVENTH SOUTHEASTERN CONFERENCE

December 8-9, 1972
University Motor Inn,
University of Georgia
Athens, Georgia

Sponsors:

College of Education, University of Georgia
Test Department, Harcourt Brace Jovanovich, Inc.

ELEVENTH SOUTHEASTERN INVITATIONAL CONFERENCE

ON MEASUREMENT IN EDUCATION

Pre-Conference Session
in Conjunction with

The National Council on Measurement in Education
The Association for Measurement and Evaluation in Guidance

Friday, December 8, 1972
Main Dining Room
University Motor Inn
Athens, Georgia

Ira E. Aaron, University of Georgia, Presiding

9:00 - 9:30 a.m.	Legislative Accountability for Public Schools - Goals for Georgia Sam A. Nunn, United States Senator
	Open Discussion
9:30 - 10:00 a.m.	Public Schools in Transition - One Student Body, Its Needs and Directions George R. Rhodes, Jr., United States Bureau of Equal Educational Opportunity
	Open Discussion
10:00 - 10:00 a.m.	Coffee Break.
10:30 - 11:00 a.m.	Man to Mankind: The International Dimension of Teacher Education David Imig, American Association of Colleges of Teacher Education
	Open Discussion
11:00 - 11:30 a.m.	Measurement and the "Right to Read" Ira E. Aaron, University of Georgia
	Open Discussion
11:30 - 12:00 noon	Measurement for Purposes of Evaluation Dennis E. Hinkle, Virginia Polytechnic Institute and State University
	Open Discussion

Friday, December 8, 1972 — E. Paul Torrance, University of Georgia, Presiding

8:00 a.m.-1:00 p.m.	Registration Grace Wray
1:00 - 1:30 p.m.	Introducing the Conference
Welcome:	Joseph A. Williams, Dean, College of Education, University of Georgia
Greetings:	Philip I. Clark, Test Department, Harcourt Brace Jovanovich, Inc.
1:30 - 2:15 p.m.	Problems in Evaluation Studies of Educational Programs for Minorities Jay A. Davis, Educational Testing Service, Raleigh, North Carolina
2:15 - 3:30 p.m.	
Session I: Main Dining Room	Perspectives of School Desegregation in the Southeast Morrill M. Hall, Milton Hill, and Harry B. Williams, Center for Educational Improvement, University of Georgia
Session II: Large Gold Room	Issues in the Testing of Indian Children with Some Emphasis on Behavior Modification and Other Operative Programs Joseph D. Blanchard, U. S. Bureau of Indian Affairs
Session III: Small Gold Room	A Systems Approach to Reading for Migrant Children Muriel M. Abbott, Test Department, Harcourt Brace Jovanovich, Inc.
Session IV: Bronze Room	The Prediction of Achievement Means of Schools from Non-School Factors Through Criterion Scaling Thomas C. Innes, State Testing Bureau, University of Tennessee
3:30 - 3:45 p.m.	Coffee Break

ALL ACTIVITIES ARE SCHEDULED IN MAIN DINING ROOM UNLESS OTHER WISE NOTED.

3:45 - 5:00 p.m.

Session I: Large Gold Room — Mental Retardates: Children With Different Abilities

Measurement of the Self Concept of Mentally Retarded Children
Jack Shultz

Affective Characteristics of the Mentally Retarded
Bert Richmond

Motor Development in Mentally Retarded Children
Ernest Bundschuh

Evaluating Achievement of the Mentally Retarded - A Comprehensive Process
Andrew Shotick
Mental Retardation Center, University of Georgia

Session II: Main Dining Room — The Effects of Item Analysis, Frequency Distributions, and Profile Analysis on Instruction in Two Programs for the Disadvantaged

Information Systems and Economically Deprived Children
William F. White, University of Georgia

Evaluation of Follow-Through Programs
Frances Cox, Atlanta City Schools

Session III: Small Gold Room — Identification of Gifted and Creative Children and Youth Among Black Disadvantaged Groups
E. Paul Torrance and Catherine B. Bruch,
Department of Educational Psychology, Measurement and Research, University of Georgia

Session IV: Bronze Room — Who Needs Adult Basic Education?
Joseph E. Fuller, Atlanta City Schools and Fulton County Schools

6:30 - 7:30 p.m. Social Hour

7:30 p.m. Dinner

Saturday, December 9, 1972 Clemmie W. Brower, Atlanta City Schools, Presiding

8:00 - 8:45 a.m. Davis House Cafeteria	Steering Committee Breakfast Meeting
9:00 - 9:45 a.m.	Ethical Issues and Questions About Testing Confronting Test Publishers Thomas J. Fitzgibbon, Director, Test Department, and Vice-President, Harcourt Brace Jovanovich, Inc.
	Open Discussion
9:45 - 10:30 a.m.	Ethical Issues in the Use of Humans for Research W. L. Bashaw, University of Georgia
	Open Discussion
10:30 - 11:00 a.m.	Coffee Break
11:00 - 11:45 a.m.	Alternatives to Psychological Testing Donald N. Bersoff, University of Georgia
	Open Discussion
11:45 - 12:00 noon	Respondent Warren G. Findley, University of Georgia

Planning Committee

Thomas M. Goolsby, Jr., University of Georgia (Chairman)
Clemmie W. Brower, Atlanta City Schools
Robert Duby, Harcourt Brace Jovanovich, Inc.
James M. Dunlap, North Carolina Department of Public Instruction
Robert B. Frary, Virginia Polytechnic Institute and State University
Thomas C. Innes, State Testing Bureau, University of Tennessee
Thomas H. Parry, Clemson University
Robert H. Smoot, Harcourt Brace Jovanovich, Inc.

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PUBLIC SCHOOLS IN TRANSITION...ONE STUDENT BODY, ITS NEEDS AND DIRECTIONS

by George R. Rhodes, Jr., United States Bureau of Equal Educational Opportunity

ONE OF THE MOST EMOTIONAL SUBJECTS AMONG THE PUBLIC TODAY IS THAT OF INTEGRATION, PARTICULARLY THE INTEGRATION OF OUR PUBLIC SCHOOLS.

Not too many years ago practically all well meaning persons at least viewed the ideal goal of America to be reasonable integration of the various school systems. Of course, outstanding sociologists and psychologists have also held that quality education cannot be achieved without proper integration of the races. Minority leaders also recognized that without integration of schools, the districts containing minority group students would be the first to suffer a loss of resources if and when resources became critical. The capstone of all of this thought dramatically came forth in the Supreme Court decision of 1954 that held separate schools to be inherently unequal.

The attitudes of governors, mayors, school board members, community leaders and parents all receive wide coverage by the news media and careful consideration by policy makers. And well they might.

Parents and other incensed individuals have been photographed marching on city hall, and the statehouse, and in other forms of protest. Different opinions of how integration should be accomplished, and for that matter whether it should be accomplished at all, are numerous.

Presently, however, the emotionalism surrounding the integration of school children has intensified resistance to the expansion of integration and perhaps altered the timetable for the complete integration of schools in America. Of course, this situation has generated a certain amount of chaos.

But there is someone who seems to be too often overlooked in the midst of the chaos -- the student, the subject of the controversy and the ultimate recipient of its outcome. He is too often the pawn in a game that might sometimes be called "politics" or even "prejudice" but infrequently can honestly be labeled "education". It would behoove us to take a look at how the student perceives the situation when he finds himself for the first time coping with that strange animal we call "the integrated school".

First, let's focus on the Black student. Chances are his learning environment has, up to this point, been in an all or almost all Black setting. Suddenly he finds himself thrust into a situation which seems to him foreign, cold, covertly oppressive and may even become a barrier to the learning process itself. He is not called upon to learn or to be educated as much as to be a test subject for the theory that deems education as a major force in economic and social progress and a prerequisite to entry into society's mainstream. The Black student is told by educators and by the courts that the education he has received to date is unequal and is not fitting him with the skills necessary to lead a "normal" life in America. This is the same America in whose classrooms he learned that equality of opportunity is the right of every citizen. However, when he takes a look around him at the reality of his life he may form the simple question "why not for me?". So he has now been forced to question the education he has previously received. Yet at the same time he may also feel that there will be a great struggle involved if he is forced to accept a new educational setting, alien to

him in so many ways, but which promises to give him his American birthright of equal opportunity. Is he prepared to put out the effort he will need to make it in that integrated educational institution? Given a choice would that Black child opt for the integrated school? If you wonder why this Black child might hesitate, it may be worthwhile to remember that the economic, social and political equality he has been promised has never been delivered to him in the past.

The Black student who suddenly finds himself in an integrated school is faced with many difficult adjustments. Certain things are required of him to facilitate his transition from majority group member to minority group member. Without an effort on the part of students involved, the "integrated" school merely becomes a false promise that in reality is two or more segregated schools a little closer together. But too often the black student's failure to meet up to the heavy demands for adaptability results in his being depicted as a "disinterested" student, unwilling and perhaps unable to learn the rudimentary skills that will help him succeed in his later endeavors. That is placing the burden too

squarely on a young pair of shoulders. It is incumbent on the others involved -- teachers, principals, the school board, the superintendent -- to make the task of adjustment as easy as possible for him.

If a principal or a teacher begins with the assumption that the Black child is second-track, vocational material he or she can effectively prevent the child from surpassing his expectations by that very attitude. The way the principal reacts to the first problems he encounters in the new, integrated setting will set the tone for how effectively that school will be able to operate as one unit. Take, for example, the instance where the first thing the new Black students do is sit by themselves in the auditorium or cafeteria. Or perhaps their first move is to ask for Black Studies as part of the curriculum. It is the principal's job to set an example, to show the students how integration is in the best interests of all those involved. By having faculty members -- black, white, chicano, or what have you -- cooperatively working together and "playing" together (perhaps in informal extracurricular activities, skits, sports, etc.) a good model is set up for the students to follow.

It is the principal's job to make the new incoming students feel welcome, to let them know he is willing to cooperate with them in making their transition easier, and to see to it that the faculty also follows this policy. If a Black Studies program will help in this process then he should work to see that it gets off the ground successfully.

Now we should focus on another ingredient in this educational mix. The white students have to make adjustments, as well, in adapting to this situation. Like the Black students they may exhibit apathy or actual antagonism to members of the other group. More commonly however, a wait-and-see attitude may prevail in both groups. It is here that the principal and his faculty must swing into action to convince the student body that the "wait-and-see" attitude would better be a "let's go to it" attitude.

An attitude of disinterest or feigned disinterest among students is different from prejudice or active discrimination. Where a student simply does not see any personal benefit or relation to himself from

integration but he does not see any personal harm either, he may exhibit disinterest. On the other hand, prejudice against a group of people stems from fear and lack of understanding. A prejudiced student sees himself personally involved and negatively so. The job of turning a disinterested student into one who is favorable attunded to integration is a one step task. He must be shown how integration will benefit him and how his involvement will benefit others at the same time. The prejudiced person, however, must first be freed from his fear and then be persuaded of the benefits to be had. Whether the educator will have to plan for the one step or the two step task of turning his students on to the positive side of integration will depend on his particular community, his school, and the individuals in that school.

In the administration of the school as a subsociety, are the administrators truly aware of the thinking of the Black or white student population -- and how those thoughts came to be? Are the administrators and teachers concerned with the business of teaching and assuring that the learning environment is objective in nature or are they in the business of making sure that their school is free from the stigma of permissiveness for any one group?

Only Black students know what black students are thinking. Only white students know what white students are thinking. Nor will these thoughts necessarily divide along racial lines. It must be remembered that we are dealing with individuals and that there is rarely any consensus of opinion among members of the same racial group. It is the administrator's job to see that there is an exchange of ideas between himself and the students. The students feelings must be aired if an administrator really wants to know what's going on. And until he knows what's on in his student body no administrator can successfully hope to make an integrated school a reality.

There is as much work involved in the integrating of one school as in the integrating of an entire school system. For the school is a microcosm of that system and upon its success rests the success of the whole. But this work will not be fruitless. There is something good that can come of a school that is not only "desegregated" but is, in the true sense of the word, "integrated". It is natural for different cultural and ethnic groups to enjoy the sharing of common experiences and ways of expressing themselves. But an emphasis on cultural differences that

causes separation and excludes the option of integration with other cultures can bring about no positive changes. On the other hand, much good can come from unity. There is interpersonal interaction and learning of a different sort than is to be found in textbooks. Becoming aware of and attempting to understand each others differences and similarities can do more than just provide valuable lessons in psychology. They can add a certain spice to life. The formula is: sameness = boredom. When true cultural sharing takes place then positive learning is occuring. It is pretty hard to be bored when you are becoming aware of a new and different facet to life.

Students, with the advantages of youth and enthusiasm <u>can</u> make it work. They must however have the firm backing of the school administration and most important, the parent. And they must be heard and encouraged to share in the creative process of bringing people together and building something that can only make tomorrow a better place to be.

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Man to Mankind: The International Dimension of Teacher Education

David G. Imig *

For sometime now we have "copped out" on a serious consideration of what role American teacher education can or ought to play in stimulating an awareness of the responsibility America's citizens have as members of a global society. At a time when the total environment of education--including the schools, universities and society at large--should have responded to the needs of "mankind", these various institutions adopted a posture of social neutrality toward the complex issues of war and peace, group identity and conflict and poverty and other forms of social inequity. While we can rationalize why it was difficult to create a cadre of teachers capable of bringing the realities of modern society to bear on the school program of the past, we no longer can afford schools that are passive or neutral about the social exgencies of contemporary mankind nor teachers unaware of the molar problems and issues confronting modern man.

The verdict of Charles Reich's Greening of America was that schools and colleges systematically stripped young men and women of their imagination, creativity and uniqueness. Charles Silberman attested to the "mindlessness" of the schools and said he never could find where they were going or what goals they were striving to achieve. Our schools seem able to respond only to the demands of the marketplace

* Eleventh Southeastern Invitational Conference on Measurement in Education, Athens: University of Georgia, December 8, 1972.

and not to the needs of the multitudes who want a better world. What we need is a philosophy of education that pervades the environment of education with a commitment and concern to accept the reality of a society whose dimensions encompass all mankind .

If our schools and colleges did take a position on the important social issues would not the adoption of such a stance and abandonment of social neutrality erode, if not destroy, the integrity of the academic process? Would not the result of injecting issues of social commitment into the educational arena result, sooner of later, in politicizing the institutions and individuals inhabiting that arena? Do we really want a newly fashioned American citizen, one with a world point of view?

These are serious and important questions. The hazards of politicizing the acquisition and dissemination of knowledge are old problems and ones best exemplified by the experience of Europe's first Master Teacher, Socrates, who stated that "the unexamined life is not worth living". The reason we posit social neutrality is probably because history's first distinguished award for Master Teacher was a cup of hemlock.

Formal educational systems as well as the informal educative processes have, throughout human history, reflected the chasm that separates human aspiration from human achievement and social theory from social reality. In any educational systen , the school has been both insular and insulated, circumscribed by a vision that is narrower and more confining than the social territory it professes to encompass and protected by tradition and inertia from the challenging

and dynamic forces of social interaction in the world. Unfortunately, some take pride in this satigmatic condition as though blindness was a virtue. Its guiding educational principles were buttressed by many social, political and economic forces which helped to sustain the dichotomy between schooling and life. The elite could, without fear of serious contradiction, use society's educational tools to shape their progeny in their own image, often to the detriment and disparagement of the rest of the society. Society's leaders could afford to maintain a philosophical view, that deprecated action and celebrated the unchanging nature of ideas and values as long as the dependent multitudes remain inert and passive. They could safely promulgate the view that security and social welfare depended on the maintenance of a heirarchy based on economic and cultural distinctions. The outsider, the threat to social progress, became the "barbarian", the "savage", the "gentile" or the "non-gentile", the "infidel", or the "black power advocate","the silent majority" or the "beleaguered minority", "the embodiment of evil design" or "subversive ideology".

But in a world divided ideologically, economically and politically, few would dispute that explosive alterations are taking place in the social fabric of the 20th century and all mankind is directly effected. The causes and manifestations of these alterations are difficult to assess because events do not stand still. Both the substance of the alterations and the context in which they occur are changing as mankind responds, acts, chooses, values and fights in his attempts to mold events to his goals. Older forms of authority are loosening their grip as the young,

disenfrancised, the colonized and the discriminated react against the controls which have previously dominated them. One of the hallmarks of our time is the historically unprecedented degree to which our species have become interdependent at the global level. New technologies have been unleashed building "a loom of truly global dimensions--one on which new sturdy threads are weaving together formally independent social tapestries, penetrating, disrupting and overlapping old social patterns and transmitting the shocks of social change throughout the global fabric." [1] The world has ceased to be a piece of cosmic real estate on whose land live diverse and scattered bands of relatively autonomous and isolated men. As Robert Leestma recently noted:

> The nations in the modern world are inextricably linked to one another through problems of war and peace and the entire continuum between. Each day the need for achieving a better understanding of the family of man and the human condition becomes increasingly apparent. Overarching problems and issues like underdevelopment, population growth, and the balance of payments affect the world as a whole. Many other problems are also properly perceived as cross-national in nature or as having implications across national boundaries. This is true whether you are talking of satellite communications, Hong Kong flu, drug addiction, environmental pollution through oil tankers, or sky-jacking. [2]

This growing interdependence is best realized by looking at the evidence manifested in: First, an <u>expanding volume of world wide human interaction</u>.

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[1] Robert North, "The World of Forthcoming Decade: A Pessimistic and Optimist View". (Mimeographed Excerpts), p.21.

[2] Robert Leestma. "The Nature of the Modern World and Some Implications for Education." <u>Higher Education and the World</u>. Washington: AACTE, 1972, pp. 26-28.

Transitorized radios, satellite communication, and global wide travel afford no society the opportunity of remaining isolated from contact with or influence by other societies. Second, there is an expanding network of cross-national organizations and associations. A team of International Social Scientists at the International Peace Research Institute in Oslo are currently examining the present and speculating about the future. They have labeled the present international system of geographically based nation-states a "territorial system" and are seeking to describe an emerging world system made up of "non-territorial actors" who will have greater political power than the present nation-states. These "actors" have been labeled International Non-Government Organizations (INGO's), International Government Organizations (IGO's) and Business International Non-Government Organizations (BINGO's). On the basis of the growth rates for the past two decades this Peace Research Institute Team suggested that the number of non-territorial actors will continue to increase while the growth of the territorial system, is not likely to change. They have therefore concluded that there will be 13,400 INGO's, 1,250 IGO's and nearly 4,000 BINGO's by the year 2000. The team concludes that the loyalities of many individuals throughout the world will begin to shift away from the exclusively geographical and nationalistic base to include as well a professional or vocational base. At some point, if their predictions are correct, man's loyalties will actually cut across national or trans-national boundaries so that international wars may be impossible to wage and man's concern for the condition of mankind will reach a point where far more substantial efforts will be made to reduce the social inequities and imbalances confronting today's world.

Third, there is an increasing similarity in mankind's social behavior and institutions. Norman Cousins perhaps best dramatizes this similarity when he speaks of a new musical comedy erupting into success on Broadway and within a matter of weeks its tunes are being heard all the way from London to Johannasburg or a movie being made about Russia of a half century ago and the theme song from that film being requested of orchestras from Edmonton to Warsaw or the fashions of London's Carnaby Street being seen in the Greenwich Village or the Left Bank or Amsterdam or Hong Kong. Cousins notes that the increasing commonality in social and culture forms is not confined merely to styles in music, art, dress, dancing or the proclivities of youth toward rebellion. The traditional diversity of the core of any social system, its management and administrative system, appear to be more and more similar. Today, the great nations of the world are all being managed by common corporate, executive or management styles using similar techniques, strategies and methods.[3] Technocrats are more highly prized than charismatic leaders in not only Washington but also in Tokyo, Peking, Moscow or Bonn and should further help to diminish the differences between men.

A fourth characteristic of the modern world is the internationalization of social problems. The growing inter-connectedness of peoples has among its consequences the internationalization of many aspects of man's ageless problems of survival. The pollution of air and water, the proliferation of nuclear weapons, the plunder-

[3] Norman Cousins. "Needed: A New World Theme Song", Saturday Review. July 13, 1968, p.20.

ing of our planet's mineral resources are only a few of the many problems that can be solved only through international cooperation.

In contrast to this growing interdependence, there is a counter-vailing force; a force that threatens the attainment of mankind. If we are ever able to achieve the appreciation of mankind, it will only be after much long and difficult labor in which there are many complications. Those of us in this room are the idealists fortunate enough to live in a land so richly endowed with vast open spaces, the wealth of natural resources and a heritage of freedom as well as tremendous physical power. For us, it is easy to speak of "one-world" and "global villages" and "spaceship earth". For us, words like growth and abundance and security and technological development are common place. We tend to live in a modern world of scientific and technological virtuosity, a world where a formula can be constructed to explain almost anything and a system conceived (and if only the funds are available) and assembled to correct anything. We too often fail to recognize that we live in another world, a world in which many men live almost as their ancient ancestors did, struggling from day to day to survive, knowing little more than a life of toil and hunger. Strangely, the two worlds exist side by side and there can be little hope for mankind until this chasm if bridged and the disparities overcome.

Today, poverty is more widespread and severe, infant morality is much greater, life expectancy is much more widespread in the poor countries than in the rich countries. Worse than that, the "obscene gap", as it was graphically designated on a plaque held recently by a young "walker-for-development" in Washington, between the rich and poor countries is widening and, even worse, is widening

at an accelerating pace. The recent statistical report of the United Nations, graphically depicted this "obscene gap".[4] While people in the United States continue to speak of our potential abundance, two out of three of the world's people suffer from hunger or malnutrition. In terms of food intake per person, the average American consumes 4 1/2 pounds of food each day, while people in a country like Equador consume only a 1/2 pound per day. This problem contributes to other gaps; for example, in the underdeveloped countries, infant mortality is high as 229 deaths per thousand live births, while in one Western European country, it is as low as 11.7 deaths per thousand live births. In Sweden there is a life expectancy of 72 years for males while a male born in Gabonu can expect to die before he is 25. But hunger and health are not the sole indicators of this "obscene gap". We still have almost 800 million people in the world who are preliterate and the number has been growing, with most of them in the poorer areas of the world. It can be also estimated that about 20% of less developed country's labor force is unemployed and this problem can only be compounded by the exponential rate of growth of their urban populations. The great agricultural transformations of the last decade will further intensify these critical problems as they stimulate still greater rural to urban migration.

In education, the "obscene gap" was evidenced by the fact that between 1960 and 1968, developed nations were able to spend more than $120 billion on education while the developing countries were able to spend less than $12 billion. During this same decade, the industrialized nations had only one-third of the world's

[4] The Statistical Yearbook for 1971. New York: Department of Economic and Social Affairs of the United Nations., 1972, 818 pp.

population and one fourth of its young people. Edgar Faure, in Learning to Be, the most important text to be published on education and development in this decade, notes that "the ever-growing gap between industrialized and developing countries had produced the fundamental drama of the contemporary world". [5] Indeed when it is ascertained that the gap between the rich and the poor countries at the end of this century as measured by per capita gross national product may well be twice what it is today, it is not hard to believe Stewart Udall when he predicts that no American will be able to walk the streets of Lima or Accra or Vuntiane in five years without being spat upon. The delimma of our institutions and our society is how to best attack this "obscene gap" in a time characterized by a reassurgence of social neutrality, public apathy and neo-isolationism.

The rich man's dilemma, as Ward Morehouse notes, is whether the "Third World" will be able to achieve, with the help of rich societies, its "prophetic deliverance" from poverty, disease, and ignorance by the end of the millennium? [6] And, if we can accept this responsibility, can we do so without conveying contempt, paternalism and charity, repugnant in a world which aspires for increasing equality among men and nations? Even if we can do so with compassion rather than charity, is that still not a motivation of condescension? But what is the alternative?

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5 Edgar Faure, et. al. Learning To Be: The World of Education Today and Tomorrow. London: George C. Harrap & Co. Ltd., 1972. 313pp.

6 Ward Morehouse. The Rich Man's Dilemma, The Obscene Gap and the Philanthropic Transition: A Question of Values. Albany: The University of the State of New York, 1972, 7pp.

There are some, like the Club of Rome, who suggest that we all are very close to the limits of growth on this planet and that we will burn ourselves out sometime in the next 100 years. They suggest that we must limit growth by controlling population, decelerating industrialization, reducing the use of non-renewable resources, stopping the destruction of the environment and overcoming the limitations of arable land and fresh water for agricultural production. The dynamic interaction between and among these factors is generating ominous strains upon the earth's finite capacity to sustain life and growth. These and related factors are such that the members of the Club of Rome and many others who ponder the future can marshal a very persuasive case that we must, somehow, curtail growth, particularly in the developed nations, in order to survive. If this be the case, our institutions, policies and formulas for dealing with growth, expansion and development have to change. If we abide by the facts presented and slow the pace of development, how also do we avoid subjecting the developing countries to the permanent status of being pawns of the World? And if we seek to alleviate the disparities that separate us, can we do so without forcing the developing nations to reshapingthemselves over in the image of ourselves? These are the real problems that man will face in the next decade and they won't go away by turning inward and recalculating our responsibilities to mankind in terms of only our domestic needs.

International Teacher Education

It is my contention that the education of teacher is one focal point around which major efforts must be concentrated so that a change in educational objectives,

encompassing a world view, can find its way into the content and structure of American education. The American Association of Colleges for Teacher Education has during the past two decades, maintained an active interest in pushing back the parochial frontiers of teacher education in all countries and of bringing man closer to the realities of mankind.

The Association has taken the position that : "Without teachers whose own knowledge and attitudes are in tune with the demands which world society now makes for the application of new knowledge, there is little chance that new perspectives can be introduced into the structure and content of modern education, in the United States or anywhere else." Yet the fundamental question remains: Why has so little been done in American education in general to repair this neglect?

Several studies have been undertaken in recent years to probe and gauge the response now being made by American teacher-preparing institutions to the global challenge outlined above. In one of the most comprehensive and complete studies to date, Harold Taylor reported in 1968 for the American Association of Colleges for Teacher Education some of the steps that had to be taken to incorporate the world into the substance of teacher education.[7]

In his advocacy of the school and the teacher as the indispensable factors in promoting that international understanding requisite to survival and to the discharge of moral responsibility, Taylor, unlike many scholars, exhibits no doubt as to

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[7] Harold Taylor. The World and the American Teacher. Washington: AACTE, 1968, 317pp.

whether formal education more than other agencies of change might move man toward mankind.

In a search for the means by which internationalism might be recognized as an integral part of the education of teachers, Taylor's disapproval of almost every aspect of the current program went far to annoy the friend and satisfy the foe of contemporary teacher education. He asserted that teachers of teachers lacked a concern for the commitments that young people are capable of making to teaching as an act of devotion to learning and to children. He felt justified in broadening his condemnation to include faculty members not directly related to the education of teachers since they share the responsibility for the justly criticized university environment.

The implications of Taylor's work seem obvious--i.e., colleges and schools of education are in a unique position to influence the international dimension of all formal educational programs, partly because of their multiplying effect and partly because they are the consumers of a large percentage of the product of the introductory-general education programs of the universities. They train teachers who in turn play a role in shaping the educational programs of the schools and colleges in which they teach, and they mount in-service programs for teachers, educational leaders and administrators who are in a position to bring significant change. Through the standards that colleges of education set for entrance into teacher training programs, they have, or could have had, a strong influence over undergraduate education. In addition, much of the research and development work carried

on to a final solution to educational problems is under the administration or influence of colleges of education or their faculty.

In spite of this potential for influencing the direction of educational change, schools and colleges of education have made too little international impact on their products and where such efforts have been made they have too often been fragmented, episodic and uncoordinated. In a study recently completed for the Office of Education, it was found that over sixty percent of the administrators responsible for EPPR programs place little or no importance on international education. As a result of this and other factors we found that only 8 to 10 percent of the students preparing to teach had the opportunity to study cultures and societal concepts on an international plane. Only 41 institutions require some sort of experiential or student teaching experience in multicultural or "culturally-different" settings. Of the million students enrolled in teacher education, only 0.2 percent engage in overseas student teaching programs.[8]

Commenting on this problem, the authors of Education for 1984 and After say: "The prevailing 'provincialism' of our conception of what a teacher should be may do as much as deficiencies in salary schedules, training programs and working conditions, to account for the fact that, even in institutions predominantly dedicated to teacher training, our best preservice prospects all to (sic) frequently change their career selections. The actual 'provincialism' of our teachers is also a

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[8] Frank H. Klassen, David G. Imig and Yoost Yff. The International Dimension of American Teacher Education: A Survey of International Education in Teacher Education Programs of American Colleges and Universities. Washington:AACTE, 1972, 193pp.

hazard. Even imagination and warmth depend, in part, on what one has seen of life. Most of our teachers are recruited from middle class families. As one student of poverty has aptly put it, very few 'middle class trained people can begin to imagine' the world of the Puerto Rican, the Negro, the Spanish American, or the 'Anglo' hillbilly, a world where 'Mexican boys in Southern California hear of a future of work in the citrus industry, or following the crops, and Negro boys of the hot, heavy unskilled dirty work performed by most men known to them'...." [9]

This comment makes serious charges against the competence of the teaching profession and those who prepare them to cope with the rapidly shifting basis of cultural life in America. It points to clutural lag as a predominant principle in assessing the flexibility of education generally to cope with emerging social needs. It suggests that the goals and processes whereby education conducts its affairs be constantly reexamined. It points to the need for teacher education programs to create in prospective teachers a sensitivity toward cultural change. It serves as a basic motivation to reduce the gap between social expectation and educational reality through a program of continuing education of teachers after they enter the profession. Finally, and by inference, the comment implies a belief that improvement in the quality of education can indeed make a difference in the quality of life of individual citizens and in the welfare of society. The teacher and his/her training are pivotal in this respect. The school of education must

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[9] Paul Olson, et. al. Education for 1984 and After. Chicago: Study Commission of Undergraduate Education and the Education of Teachers, 1971, p.30.

begin to create men and women who are professionally committed to educational change and improvement. "More than ever before, the substance of America's future resides in our teachers", writes U.S.O.E. Commissioner S.P. Marland in his 1971 Annual Report.

What, in principle, is this future for which the teaching profession and teacher education must bear responsibility? First, it is a future in which increasing rapproachment is made between the "haves" and the "have nots", between the generations of man and between the richly varied societies and peoples that make up mankind.

On this premise, radical or evolutionary changes in human society demand a relevant response from teacher education:

-in the environment in which the preparation of teachers and specialists takes place;

-in the intelectual problems that form the substance of the preparatory and inservice training

-in the clinical experiences that prepare the teacher for the classroom

-in the involvement of the teachers in the critical issues of society

-in the greater cooperation between producers and consumers, i.e., between the institutions and processes that train teachers and the schools and communities.

It is the character of this response that will make a vital difference for "Without teachers whose own knowledge and attitudes are in tune with the demands

which...society now makes for the application of new knowledge, there is little chance that new perspectives can be introduced into the structure and content of modern education...."[10]

Man to Mankind

If I have indicated in my remarks today, that we still have a long difficult way on the path from man to mankind,I did not do so to be discouraging. We must however, move with a sense of urgency for the waves of adversity seem to be rising up all about us...but the tide is not against us. And if we see in today's upheavals what seems to be senseless conflict, destruction and waste, we might recall the words of Alfred North Whitehead, "It is the first step of wisdom to recognize that the major advances in civilization are processes which all but wreck the society in which they occur."

Truly, this is the time for such recognition. We can build a better world, but one step along the arduous but rewarding journey toward "mankind" must be to create a new educational environment able to foster a more enlightened and perceptive outlook on the part of all who participate in it: the teacher, the undergraduate, the graduate student, the college professor, and the plain but new-fashioned American citizen, a citizen with a world view.

10 Taylor, op. cit.

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MEASUREMENT FOR THE PURPOSE OF EVALUATION

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The terms, "Measurement" and "Evaluation" have been defined by educators in many ways over the past several decades. While many of the differences in the definition of evaluation have been rather vague, there have been some discrete ones. By comparison, there has been less confusion over the definition of the term, measurement. It has generally been defined as the process of transforming certain attributes, observed in nature, into numbers that can be arithmetically or mathematically described and manipulated. In other words, the assignment of numbers to variables (observed phonemena) according to a predetermined set of rules regarding the amount of the attribute observed.

Evaluation, on the other hand, has had several different definitions; three of these are of particular interest (12). The first of these has an historical perspective in that the evaluation movement followed closely on the heels of the measurement movement, or as Thorndike and Hagen stated,"good measurement techniques provide the solid foundation for sound evaluation (14:8)." Such statements have been misconstrued and, as a result, the two terms, measurement and evaluation, have often been equated. Mathematically this definition would be illustrated as follows:

$$E \equiv M$$

i.e., Evaluation "is identical to" measurement. Contemporary examples of this definition would be the new edition of Thorndike and Hagen's book, Measurement and Evaluation in Psychology and Education. As did its predecessors, the book does not specifically differentiate the two terms. Another example of the equating of these terms would be the continuing efforts of the commericial test

developers, first of all, to stay in business and, secondly, to get into the accountability game with their extensive variety of testing programs.

The advantage of this definition is that it emphasizes the quantification of observation through appropriate measurement techniques. However, this quantification of information, while an initial advantage, has led to several disadvantages. The first of these is due to the dependency in this definition upon the measuring instrument. In this way, the science of evaluation has been viewed as the science of measurement. While these are not mutually exclusive, there has been a tendency to emphasize the letter at the expense of the former.

Secondly, this quantification of information through the development and implementation of appropriate measuring insturments has led many naive evaluators to view non-quantifiable information as irrelevant in the evaluation process. This not only has excluded the so-called "intangible"variables, but also the provision for making value judgments relative to the quantified information. Thus evaluation under this definition was limited to only those variables that could not be readily measured were ignored, e.g., student attitudes. The use of this definition has thus led to evaluations which were "too narrow in focus and too mechanistic in approach (12:11)."

A second definition of evaluation has been "that of determining the congruence between performance and objectives (12:11)." Symbolically,

$$E \equiv (P \cong O)$$

This definition has been used extensively by curriculum developers. The process underlying this definition involves, first of all, stating the objective(s)

of an endeavor (e.g., a unit of instruction) followed by the means for accomplishing it (them). The evaluation is then based upon whether the observed performance was sufficient to indicate that the objective(s) had been accomplished.

The obvious advantage of this definition over the previous one is that it is much broader. It contains the element of measurement not only of the endeavor, but also the process within the endeavor itself. In this way, the evaluation should provide feedback information on the outcome as well as the process. Lack of congruence between the performance and the objective would thus lead to either a change in the process and/or a recycling through the process until the congruence is achieved.

On the other hand, the disadvantages of this definition involve the stating of the objectives to be evaluated, i.e., generally behavioral objectives. One of the initial tasks of the evaluator under this definition has been to develop (or to help develop) a sufficiently operational set of objectives for the endeavor. When the evaluator has assumed this task, controversies have resulted over 1) the role of the curriculum developer and the role of the evaluator (10), 2) the degree of specificity in stating the objectives (9), and 3) the overemphasis on behavioralistic outcomes. These controversies are not necessarily restricted to evaluation and evaluators only, curriculum development and curriculum developers are likewise involved. The controversies are nearly twenty years old, but no satisfactory solutions have been offered to date. This is evidenced by the current discussions concerning the development and evaluation of Performance-Based Teacher Education (PBTE) programs (2). Settlement of these controversies would undoubtedly aid in the understanding of what should be considered in the evaluation process and place this definition in perspective.

A final disadvantage of this definition is that it places a terminal perspective on the evaluation process. While the definition appears to make the provision for continuous feedback, it is generally viewed as terminal in nature. This is not due so much to the definition but to the stating of the objectives in terms of terminal behaviors and their assessment. Thus, this definition focuses too much attention upon the behaviors as the ultimate criterion and subsequently views evaluation as a terminal process (in practice).

A third definition of evaluation to be considered here relates evaluation to professional judgment. Symbolically,

$$E \equiv PJ$$

The first two definitions place little if any emphasis on judgment in the evaluation process. This definition, however, specifically says that "Evaluation is Professional Judgment." The most illustrative example of this definition is that process of institutional accreditation by the various accrediting agencies. Visiting teams representing these agencies read the institution's self-study report, visit the institution to see the data first hand, and then, based upon their experience and expertise, under a judgment relative to the quality of the institution. Thus the evaluation is the professional judgment.

Another example would be the traditional school survey. Usually a team of experts from the neighboring university and/or the State Department of Education visits the school district for a selatively short period of time and records its impressions of the school district based upon the limited data provided and the activities observed. Again the evaluation is professional judgment.

While the advantages of this definition are primarily the relative ease of implementing the evaluation, the disadvantages are readily apparent. The accreditation process is under continuous criticism and the traditional school

survey is hardly acceptable for accountability purposes. These two methods have generally been referred to as "flying by the seat of the pants." However with all the disadvantages with regard to objectivity, reliability, etc., this definition does deal with judgment as a legitmate evaluation activity. It does so, however, at the expense of the other dimensions of evaluation referred to in the previous definition.

With the above as background, let us proceed to further refine the definition of evaluation and then show its relationship to the concept of measurement. Both of these terms have received substantial attention during the past decade as a result of the bonanza of federal aid to education during the mid 1960's. These federal monies brought with them, however, the stipulation that all programs funded with these monies must be evaluated, i.e., a pit came with every plum. The purpose of these evaluations was to provide information that would guide future thinking and action in support of education. Legislators along with other laymen and professional educators were "seeking to understand more fully the relations between the various 'inputs' into [the] schools and the progress of education (15:13)."

Although formal evaluation was emphasized with the advent of increased federal aid to education, informal evaluation of educational programs and methodologies has been continuous process. The purpose of such evaluations have been the following:

1) to add to the substantial knowledge of educational processes;

2) to provide infomration in order to adjust, discard or otherwise change the application of an on-going educational process;

3) to provide justification for political-social-economic action relating to education;

4) to provide instruments which may be used to carry information on the success of the process to the educational community; and

5) to create a production (usually a paper) which can move through educational bureaucratic systems and thus keep these systems operative (3:15).

These five pruposes are not mutually exclusive and do not necessarily operate in a discrete fashion, i.e., an evaluation of an education program and/or methodology can have more than one purpose. Also, when the purpose of the evaluation is to create a production that moves through the bureaucracy to keep it operative (purpose #5), considerable caution should be used. It is a recognized fact that evaluation reports are necessary for the proper functioning of the different decision-making groups within the bureaucracy. However, "a careful distinction must be made between required evaluation which is necsssary and has an effect on operations and decisions, and that which only serves the life function of the bureaucracy itself. The first needs improvement; the second needs to disappear. (3:17)."

Another need for evaluation arises when innovation and change in educational programs and/or methodologies proceed without an appreciably relevant theoretical basis or without careful planning. The resultant of such action dictates the need for a thorough evaluation procedure, i.e., these trial and error programs can only be rationalized through evaluation. Many times

> . . .pressure for innovation is frequently so great that change is introduced for its own sake with no adequate basis for for hypothesizing improvement as a result. Empirical validation through evaluation becomes increasingly important under these circumstances (8:2).

The preceding discussion suggests that relevant information from an educational program would be gathered, compiled and interpreted in the evaluative process. The specific information gathered would be determined by the purposes of the evaluation in light of the objectives of the program. It was then assumed that this information would be provided for and used by those in positions of responsibility to make the necessary decisions relative to the objectives of the

program evaluated. Thus, educational evaluation can be operationally defined as the process of providing information for the purpose of decision-making. Expanding this definition in the context of education, the role of evaluation is to assist in the development and construction of new curricula methods and materials, the redevelopment and improvement of existing methods and materials, and/or the prediction of student academic achievement. The goal of evaluation is to obtain and provide information for decision-making relevant to the selection, adoption, support, and worth of educational materials and activities (4). The procedures in any evaluation effort consist of two basic steps. The first of these is to establish a set of descriptive, appraisal-related contexts or categories that appropriately order the particular curricular phenomena under study; the second is to establish a set of specific normative rules and procedures that make possible the appraisal of the curricular rationales and practices (16).

Previously mentioned was the fact that the bonanza of federal aid to education in the late 1960's brought with it explicit evaluation requirements. Even though evaluation was not a new phenomenon in education, guidelines for evaluations were. Prior to this time, many evaluations were poorly planned and executed, and the results offered little service relative to decision-making. The methods often used in many of these evaluation efforts have been satirically described by Wolf (17) in his "5-C" Model. The five C's stand for cosmetic, cardiac, colloquial, curricular and computational. Three of these methods have particular relevance as they caricaturize amany of the above-mentioned efforts in evaluation; they are presented below.

Cosmetic Method

This method is easily applied. Essentially, it involves taking a cursory look at a program and deciding if it looks good. Some of the things worth noting about a program when using this method include whether: students look busy and involved, student projects emanating from the program can be easily and attractively displayed on bulletin boards, and one can easily develop an assembly or PTA

presentation based on activities of the program. When using the cosmetic method, one need not be concerned about objectives or gathering evidence about student learning. All such questions can be easily dealt with by showing an inquiring person the program in action and saying, "Look at all the wonderful things that are happening here. Who needs any more evidence to know we're doing a good job!"

Cardiac Method

The cardiac method is often used in conjunction with a systematic empirical approach. The use of planned evaluation procedures often results in showing that students enrolled in a new program learn no more than students in a conventional program, or that the new program did not attain its objectives. This can often present a dilemma since one always wants to claim beneficial results for a new program. The cardiac method resolves this dilemma. All one must do is dismiss the data and believe in his heart that the new program is indeed a good one. This method is quite similar to the use of "subclinical findings" in medical research.

Colloquial Method

This method is somewhat easier to apply than the cardiac method. Social psychological research has demonstrated that decisions arrived at by a group will achieve greater acceptance than decisions arrived at by an individual. This finding is the basis of the colloquial method. In applying this method, one need merely assemble a group of people who have been associated with a particular program to discuss its effectiveness. After a brief discussion, the group will usually conclude that the program has been indeed successful. This conclusion can then be transmitted to funding agencies and other school personnel. It is unlikely that such evaluations will be challenged since they have been arrived at by a group (17: 107-108).

Many times evaluation efforts such as the ones satirically described above lead to

a) inconclusive results;

b) evaluation reports which have no effect on administrative decisions, either because of bad timing or lack of relevance, or both;

c) lack of appreciation of the roles which evaluative activity can and should play in the many-factored war on social and educational problems (8:3) .

It is very doubtful whether the results of such evaluators would be of much use to anyone responsible for the progress of the educational program. However, results such as these "are likely to fit well into the conventional schoolman's stereotype of evaluation: something required from on high that takes time and pain to produce but which has very little significance for action (6:127)."

The micro-utility of this type of evaluation report dictated an urgent need for new and improved evaluation methodology. Such methodology is necessary for making evaluation reports concise yet thorough, but more importantly, useful for decision-making purposes. When this need became apparent, it was discovered that personnel trained in evaluation, evaluation designs and instruments, and overall experience in evaluation were essentially all lacking. Educators faced with deadlines for evaluation reports turned to the educational research methodologists for help in developing more adequate evaluation methodology. However,

> . . . the efforts of educational research methodologists to respond to these needs errupted in controversy when factions recommended opposing approaches for accomplishing the needed evaluation (11:121).

This controversy obviously did not resolve the pressing need for new and improved evaluation methodology; rather, the urgent need for evaluating current evaluation methodology was further emphasized.

The necessary and logical first step taken in the evaluation of present-day evaluation methodologies was the determination of what, in fact, the purposes and the general methodologies were versus what they should be. For the most part, it was found that they were summative (10) in nature. Summative evaluation was defined as

> . . . terminal evaluation concerned with the comparative worth of effectiveness of competing programs. The results of summative evaluation are not intended to serve directly in the revision, improvement or formation of a program; rather they are gathered for use in making decisions about support and adoption (5:12).

It was also found that many evaluators used the Campbell-Stanley chapter on experimental design in the Handbook on Research in Teaching (1) as a model for evaluation designers to follow as they made an effort to devise generalizable evaluation designs. The "evaluators . . . noted, with envy, the tremendous help this chapter [provided] the researcher who [was] in need of . . . [designs for]. . .

experimental and quasi-experimental research (18:3)." The crucial problem underlying this usage of the designs in this chapter for evaluation purposes was that

> . . . evaluators as a group [were] erudite enough to realize that experimental design [i.e., Campbell-Stanley] per se is generally inapplicable in attempts to solve evaluation problems, but the intrinsic appeal of rigor and parsimony inherent in experimental design still [seemed] to influence evaluators' efforts to come to grips with their own design problems (18:3).

In using such experimental designs, it is necessary for the evaluator to attempt to control extraneous variables while manipulating experimental variables. However, many present-day decision situations are much too complex to be dealt with in this traditional experimental variable-control variable manner. The evaluator must recognize that, in many situations, he does not exercise experimental control over the situation, nor does he manipulate it in any way. He must accept it as it is and as it evolves, and monitor the total situation by focusing his most sensitive noninterventionist data collection techniques on the most crucial aspects of the project. Such evaluations are multivariate and require the evaluator to focus his attention on theoretically important variables while remaining alert to any other important variables which were not, and could not have been specified at the initiation of the project (13). These situations dictate the need for not only end-of-the-project evaluation, but also for continuous monitoring throughout the project. Thus present summative methodologies must be supplemented with formative (10) ones; those which provide diagnostic or process data during the development and operation of the project or educational program.

The preceding discussion suggests three types of problems relating to evaluation and evaluation methodology; they are 1) technical problems, 2) conceptual problems and 3) operational problems. Each of these problems is related in one way or another to measurement. With regard to the technical problems, the requirement to evaluate these federally funded programs caught the education

profession with a lack of trained and experienced evaluators, and with a lack of adequate evaluation theory. The educational researchers - turned - evaluators found their research methodologies inappropriate and the public school personnel found their cosmetic and cardiac methodologies unacceptable. Both types of evaluators saw the need for additional theory and training as well as a critical need for more and better measurement instruments.

Beyond the technical problems were more importantly the conceptual problems. On one hand, evaluators had difficulty in conceptualizing the nature of the educational programs being evaluated. A contemporary example of this problem would be the evaluation of year-round schools. Such efforts have emphasized the effects of this type of school structure upon child development and/or student achievement variables with less emphasis on economic and administrative variables. While all of the above variables are important, the establishment of priorities among them should be given substantial consideration.

In addition to the problems evaluators had in conceptualizing the nature of educational programs they also had problems in conceptualizing the general nature of evaluation as it relates to specific programs. For example, a recently distributed proposal indicated that the problems in evaluating teacher performance in the classroom were due to inadequate evaluation designs rather than inadequate measurement. The implication was that solving the design problems would solve the measurement problems - a highly tenuous assumption.

This latter point leads to the most important of the three types of problems, the operational problems. The stating of objectives in terms amenable to measurement and, subsequently, evaluation remains a critical step in any evaluation design. If this step is not adequately accomplished, the resultant evaluation will have little impact. Stating objectives in such terms not only defines the performance

criteria, but also leads to the development of the necessary measuring instruments and the setting of minimal standards.

Stufflebeam's through his CIPP Model (7), attacked each of these three problems. His twenty-two step model detailed the procedures to be followed in planning, and executing an evaluation design. Hinkle (7) expanded Stufflebeam's twenty-two steps to thirty steps in an attempt to make explicit what was implicit in the original twenty-two steps. In this expanded CIPP Model, Hinkle indicated that the key steps would be, first of all, the writing of the objectives in terms amenable to measurement and evaluation by explicitly stating the performance criteria. This step would then be followed by the determination of the relative VALUE and PRIORITY of each objective, i.e.,a judgmental activity. If these steps were adequately completed, the development and execution of an appropriate evaluation design would be a rather straight forward task. The only lingering problem would then be the availability of adequate measuring instruments. While the CIPP Model does not solve all the problems associated with evaluation, it is quite logical and all-encompassing, and directs attention specifically to the measurement problems inherent in all evaluation. The philosophy which underlies the CIPP Model ties measurement to analysis and then analysis to decision-making. In this way, Stufflebeam combines the three previous definitions and operationally defines evaluation as "the process of delineating, obtaining and providing useful information for judging decision alternatives (12:40)."

The measurement aspect of evaluation cannot be over-emphasized. For example, consider Performance-Based Teacher Education. Elam stated that

> we cannot be sure that measurement techniques essential both to objectivity and to valid assessment of effective and complex cognitive objectives will be developed rapidly enough for the new exit requirement [of PBTE] to be any better than conventional

> letter grades of the past. Unless heroic efforts are made on the measurement front, PBTE may have a stunted growth (2:12).

Expanding this to evaluation is general, the availability and/or application of sound measurement techniques will determine the success of any evaluation effort.

In summary, there will be a continuing need to re-examine the nature of evaluation as well as the nature of the programs being evaluated. In addition, the relationship of measurement to evaluation and of evaluation to decision-making need to be carefully considered. This re-examination, to date, indicates that measurement remains the key to providing useful information for decision-making through the evaluation process. So rather than equating the two terms, measurement and evaluation (i.e. $E \equiv M$), in defining evaluation, a slight modification is proposed in the definition using different mathemical symbols.

$$M + \overset{\rightarrow}{\leftarrow} E$$

i.e. measurement-plus- is necessary and sufficient for evaluation. This plus incorporates the Performance - - Objective congruence ($P \cong O$) and the use of profession judgment (PJ) along with the concept of providing the proper information to the proper people at the proper time so that proper decisions can be made. The use of this operational definition should assist evaluators in the process of providing useful information for decision-making purposes.

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